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An Innovative Approach to Human Capital Planning and Management

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Purpose

- To provide an overview of an “integrated approach” to manpower planning and human capital management

Background

- In January 2001, GAO designated human capital management as a government wide high-risk area
- The President's Management Agenda for FY02 identifies human capital management as a government wide area needing management reform
 - > Strategic Management of Human Capital
 - > Competitive Sourcing
 - > Improved Financial Performance
 - > Expanded E-government
 - > Budget and Performance Integration

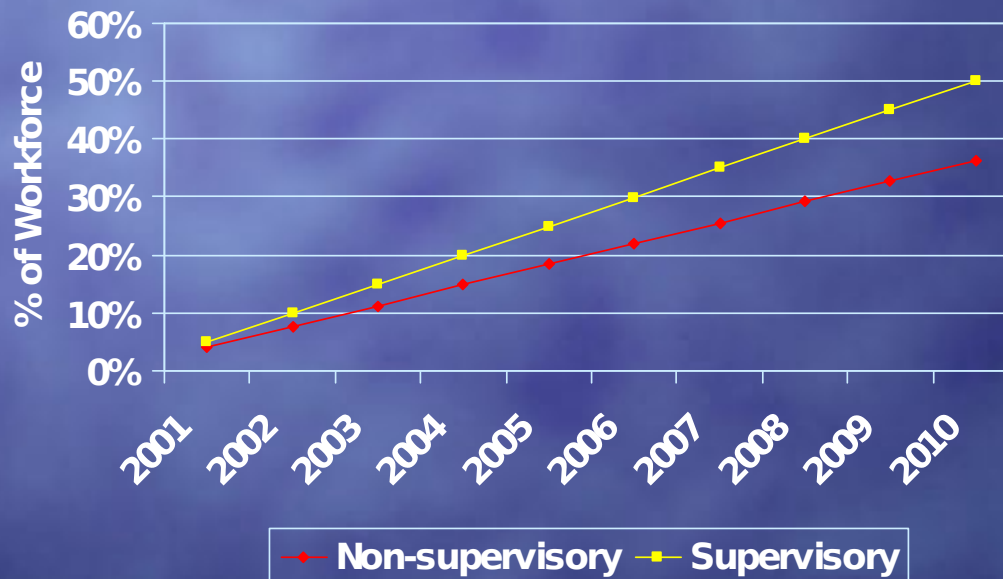
The Problem*

- The Federal payroll has been reduced to its lowest level since 1950
- Downsizing was accomplished with across the board cuts – not with targeted reductions aligned with agency missions
 - > Reduced the influx of people with new knowledge, energy and ideas (*GAO Report 01-263, 2000*)
 - > Number of layers of hierarchy continues to increase
 - > Federal workforce is over worked
 - > Out-of-balance job skills
 - > Average age of federal work force has increased from 42 to 46 since 1990

The Problem (cont)

- Upcoming retirement wave will exacerbate problems

2000 Federal Workforce Expected to Retire



Today's Human Capital Challenges

- Pressure from the Administration and Congress to align human capital strategy with agency mission, goals and objectives
- Requirement from OMB/OPM to
 - > “...develop a comprehensive human capital restructuring and organizational deployment plan...”
 - > “...**take action** to deploy the appropriate workforce to get the job done...”

Meeting Today's Human Capital Challenges

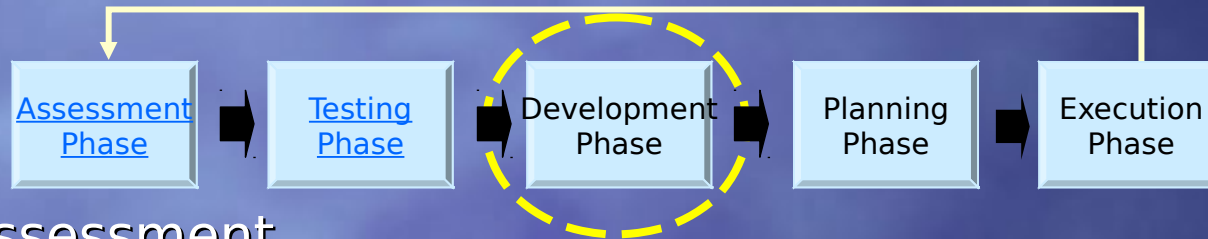
- Utilizes a proven approach to manpower planning
 - > Employs accepted operations research techniques
 - > Used by the US Army to down size (1991 – 1993)
 - > 1994 Franz Edelman Award Runner-up (INFORMS)
- Supports organizational realignment, e.g.
 - > NSPS
- Provides clear guidance to important human capital operational decisions
- Minimizes risk

Potential Risks in Human Capital Planning

- Data availability
- Undetermined end-state
- Unknown workload
- Ineffective metrics

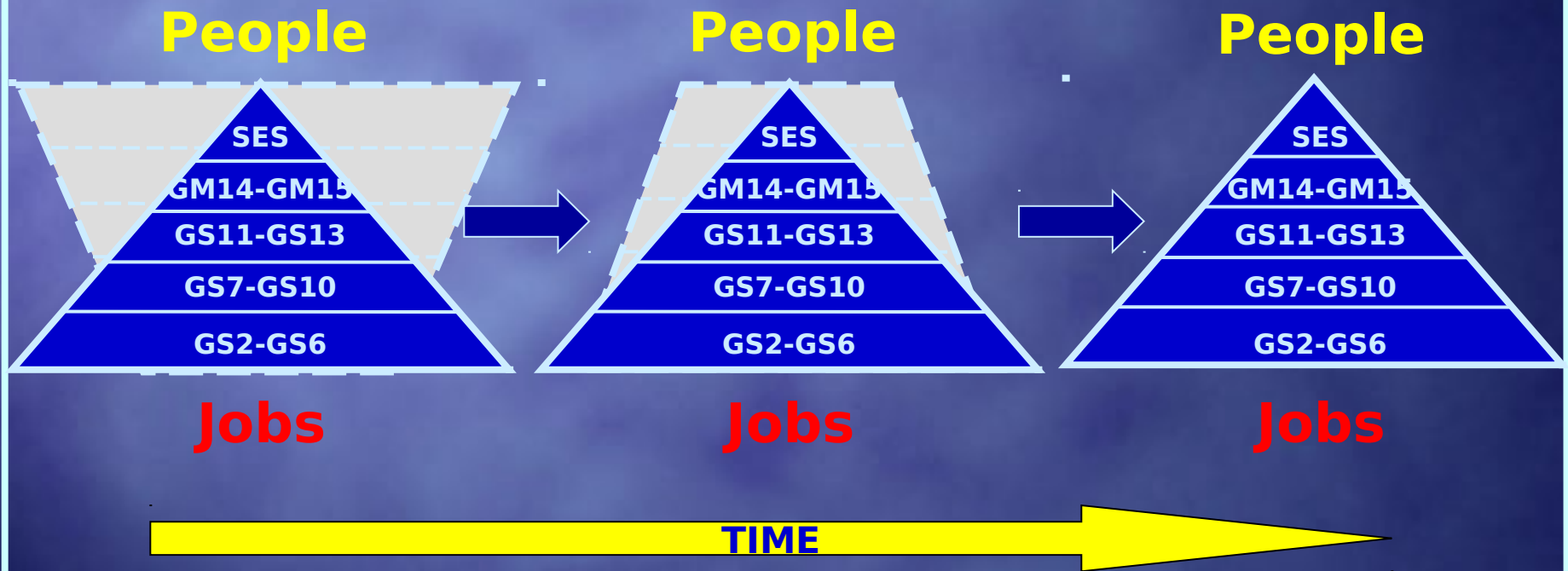
Minimizing Risk

- A comprehensive process centered on an integrated “human capital” planning model (IHCPM)



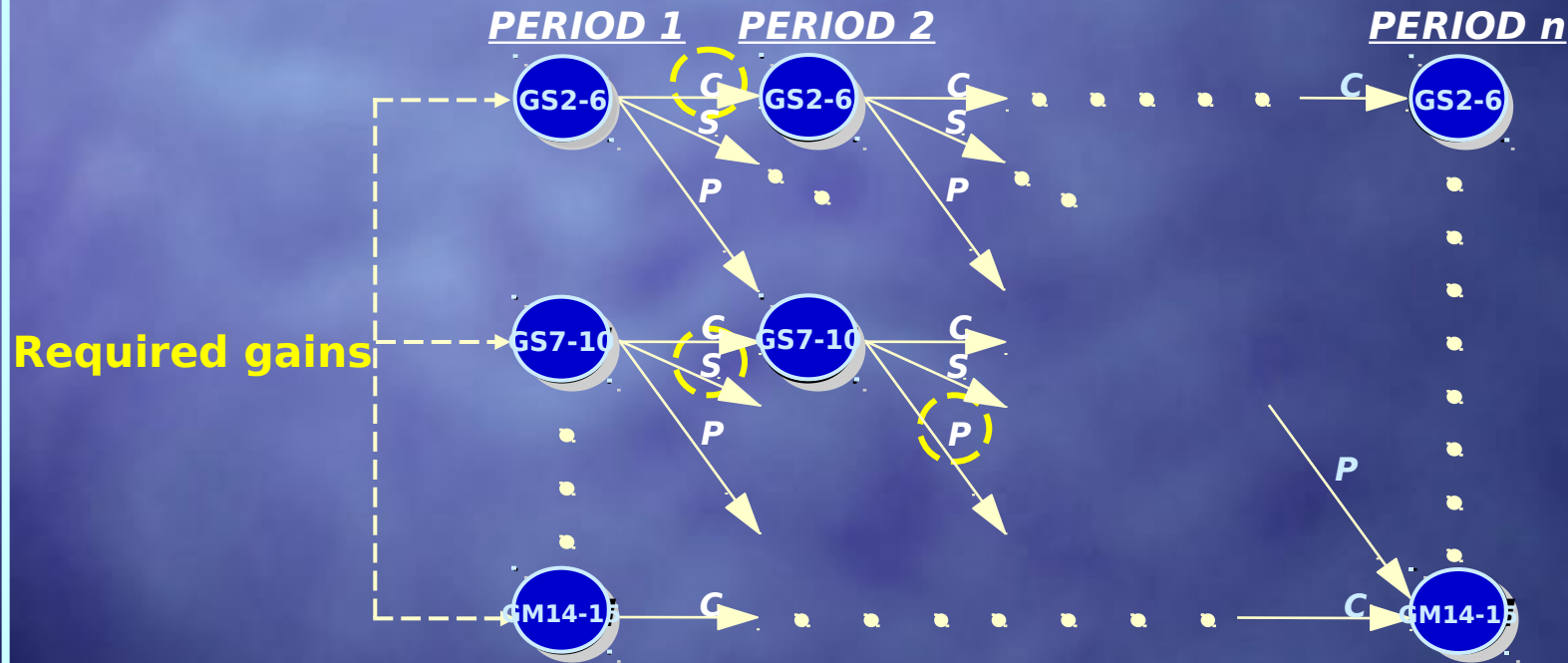
- Assessment
 - Collect and analyze data
 - Identify data storage and maintenance needs
 - Document business processes
- Testing – use traditional BPR techniques & simulation modeling
 - Identify business process improvements
 - Determine staffing requirements – input to IHCPM
 - Make recommendations
- Development - **customize** the IHCPM for a given client
- Planning – use IHCPM to develop human capital strategic plan

Key Outcome of Planning: Match People to Jobs



Expected Results

Knowledge of those that continue



Knowledge of those that separate

Promotion requirement

GS5



GS6

Sample Application

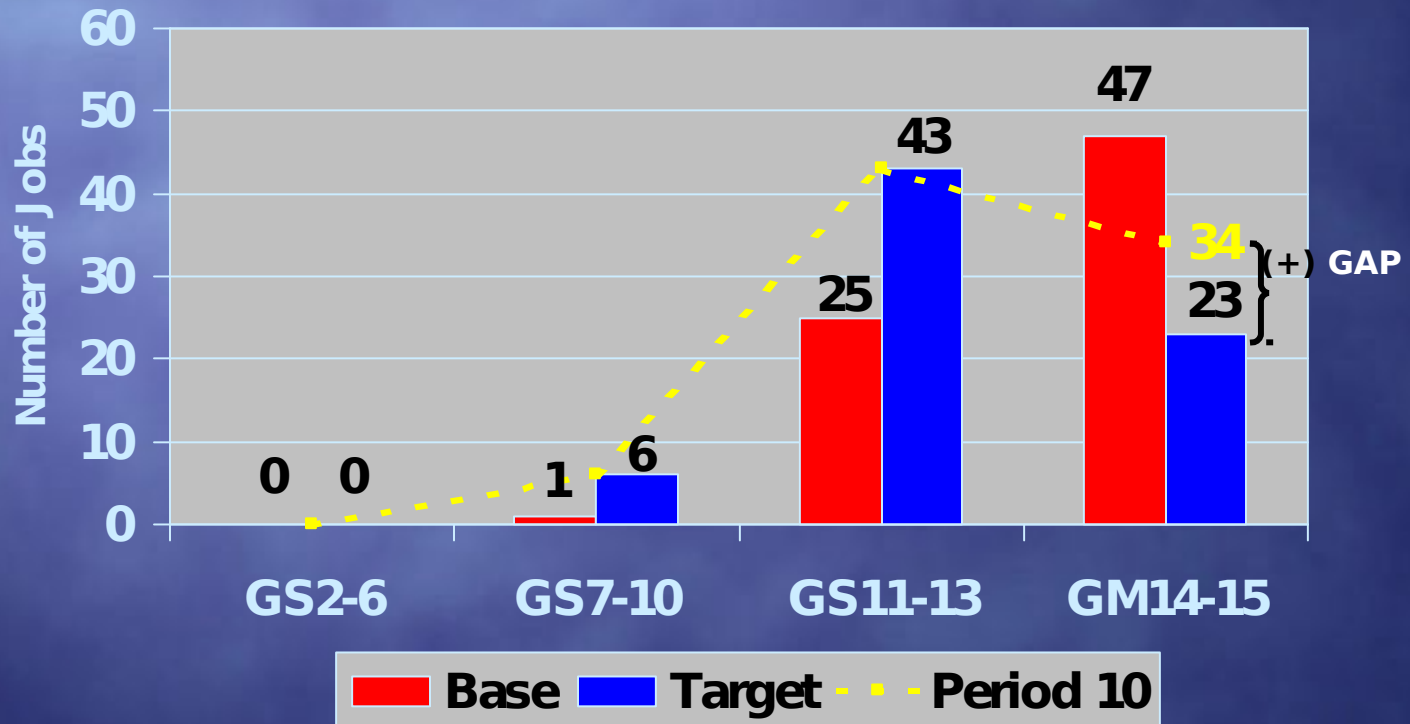
- Model the Finance Division of a federal agency over a 10 year planning horizon
 - > Scenario 1
 - End strength: hold constant
 - Grade distribution: **agency** average
 - > Scenario 2
 - End strength: hold constant
 - Grade distribution: **government** average
- Compare results

Finance Division Overview

- Contains 306 people at the end of FY01
 - > GS2-6: 13
 - > GS7-10: 84
 - > GS11-13: 124
 - > GM14-15: 85
- Contains 19 different job classifications

Summary - Scenario 2

1102 Series



Typical Steps

- Conduct a pilot test
 - > Assessment Phase
 - > Testing Phase
 - > Develop prototype IHCPM
- Brief results
- Make recommendations
- Decide to
 - > Implement pilot test findings
 - > Conduct another pilot test
 - > Roll-out the entire agency

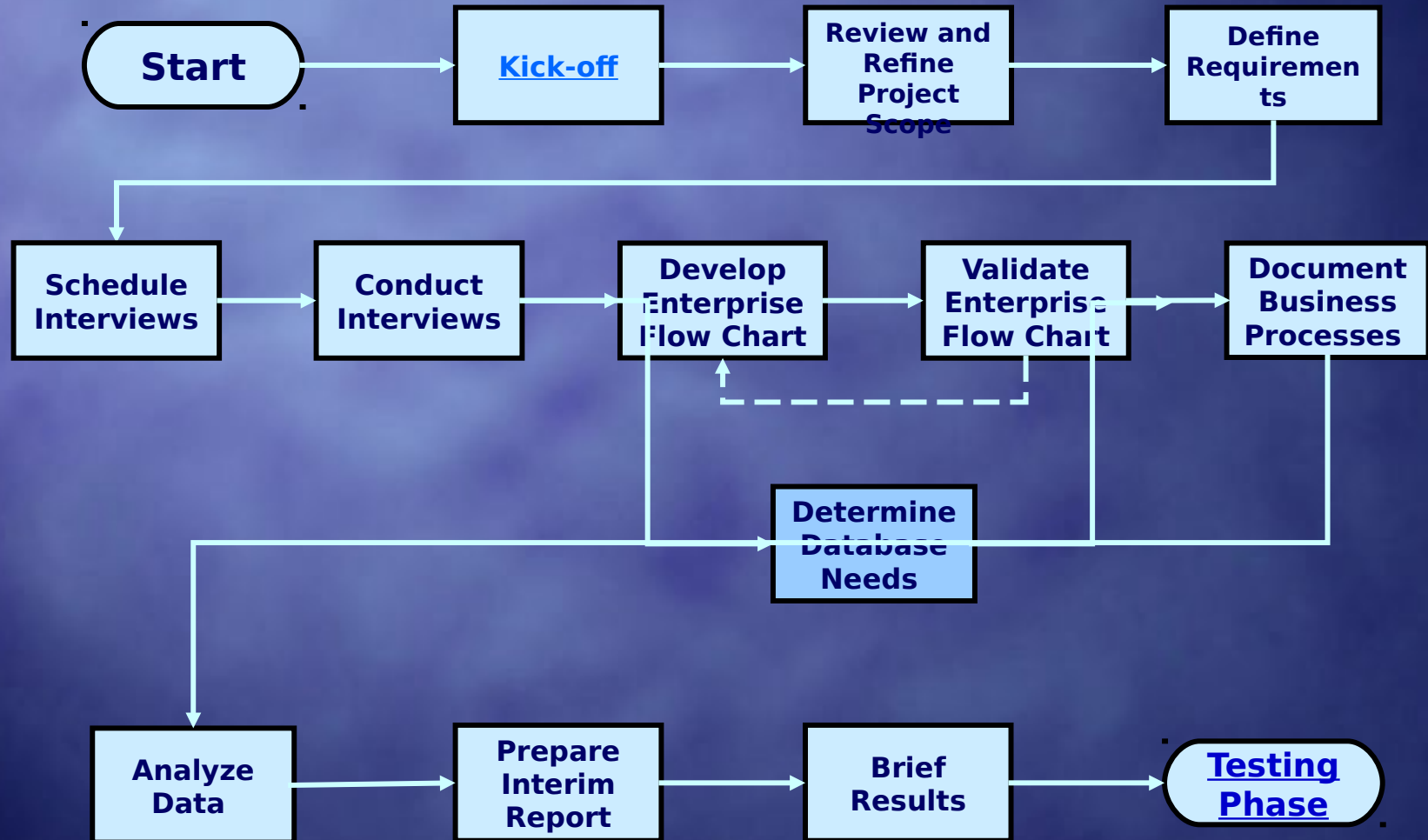
Observations

- Organizations can benefit greatly by using an integrated approach to manpower and human capital planning to ensure that:
 - > Business processes are improved
 - > Enabling technologies are identified
 - > State-of-the art models are used that :
 - Are constrained by budgeted end strength
 - Match people to jobs
 - Calculate required annual gains
 - Provide annual promotion requirements
 - Identify the need for additional loss mechanisms
- There is a need to develop a means of estimating future requirements

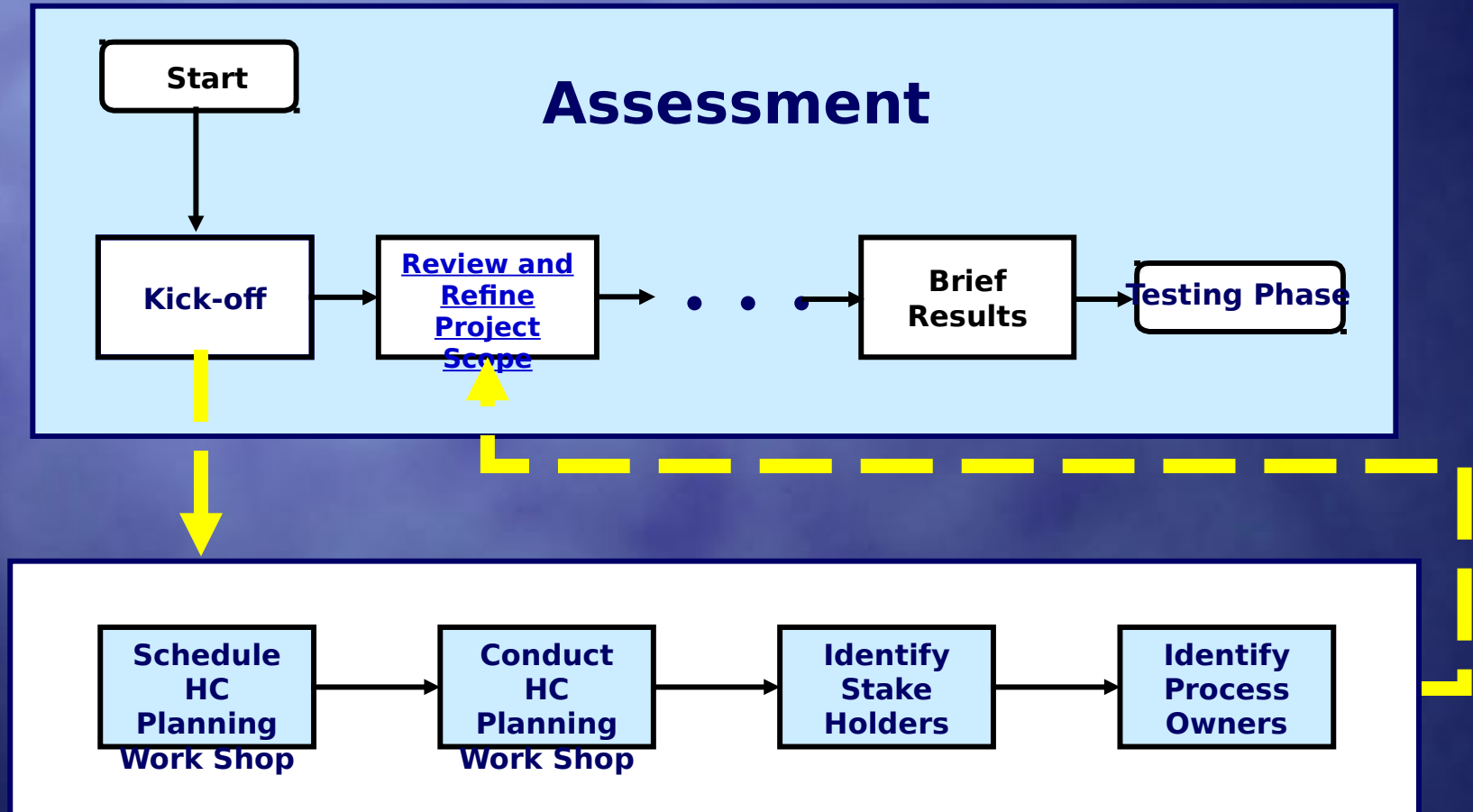
Questions?

Backup Slides

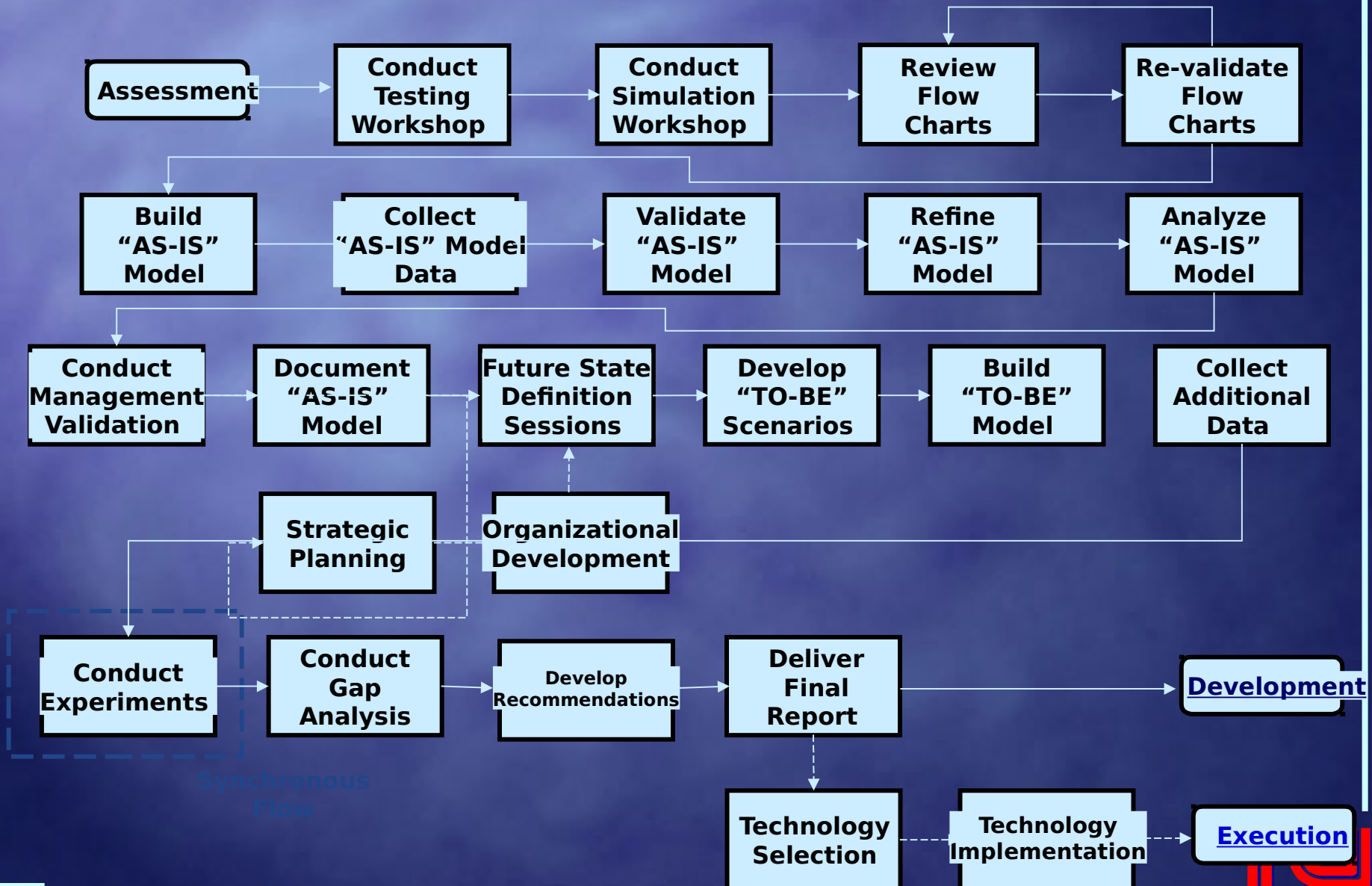
Assessment Phase



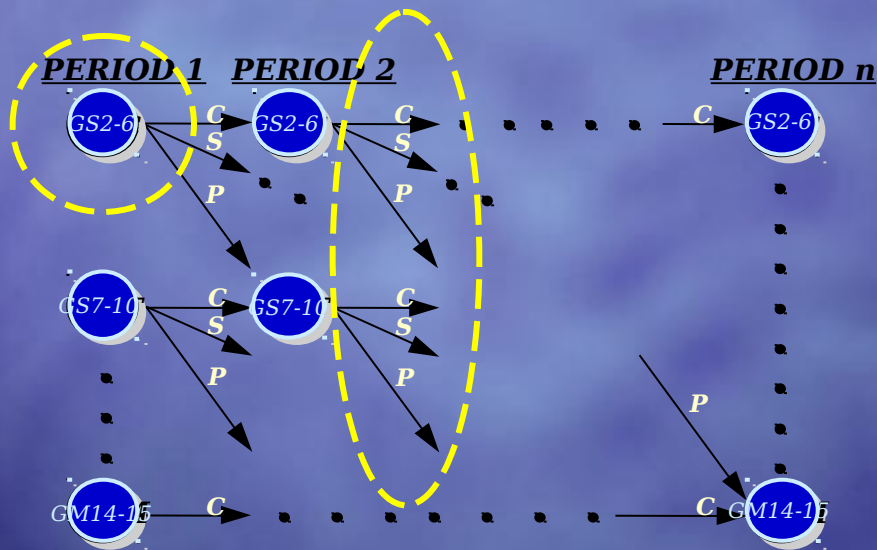
Kick-off



Testing Phase



Modeling Solution



- Nodes - represent subsets of personnel inventory (based on the agency being studied)
 - Arcs - represent the flow of people over possible career paths
 - Side constraints “bound” the problem
- Model is formulated as a “large-scale” linear program

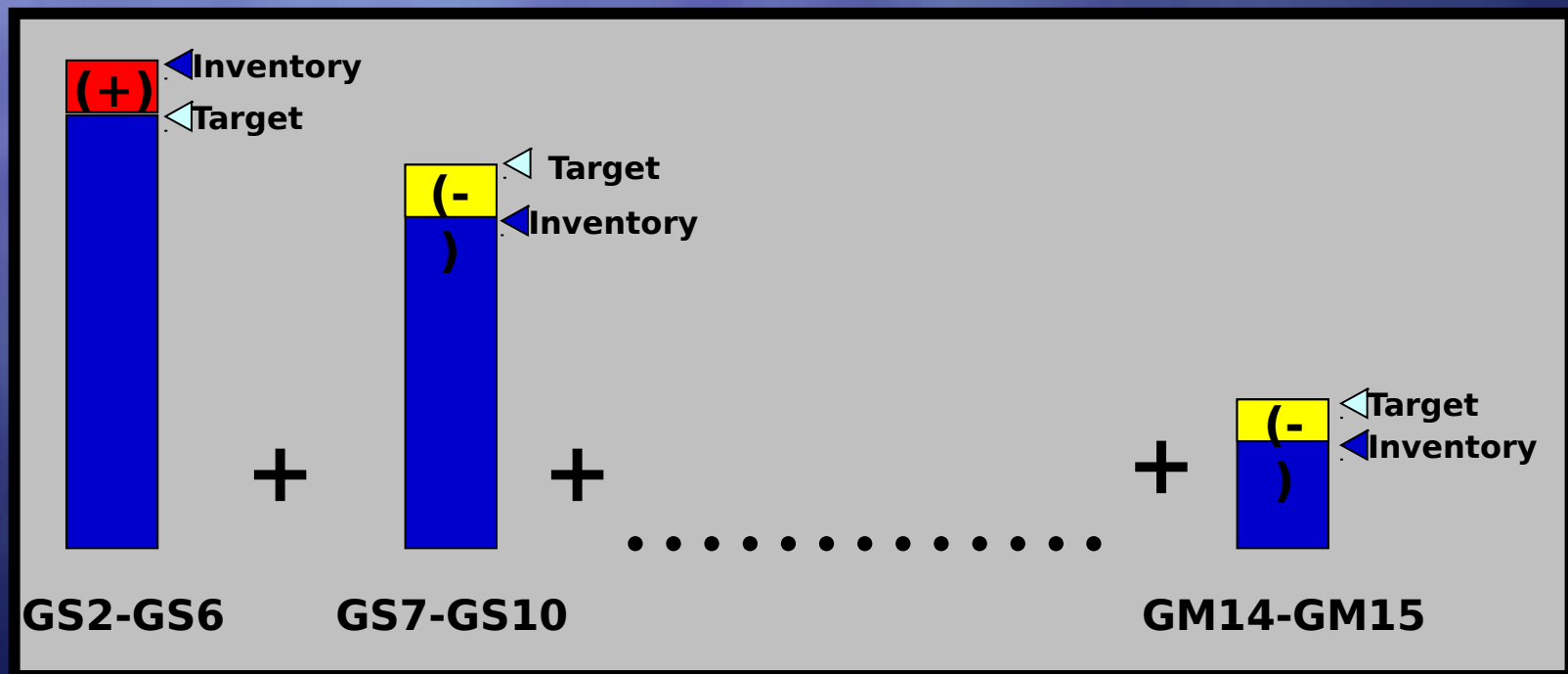
**Multi-period Generalized Network.
With Side Constraints**

Use of Side Constraints

- To match people to jobs
 - > By grade and **job classification** within each fiscal year modeled
- To manage policies, e.g.
 - > Number of early retirements
- To adhere to law, e.g.
 - > Budgeted end strength
- Cost

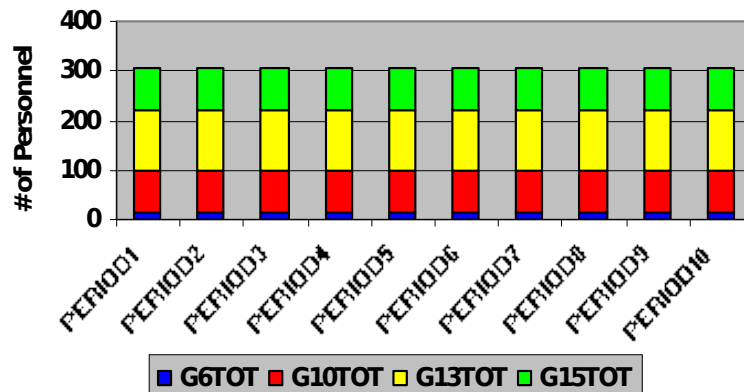
Operating Strength Deviation

- Total Operating Strength Deviation is the sum of the differences of actual and targeted personnel inventory by grade, **job classification**, and fiscal year

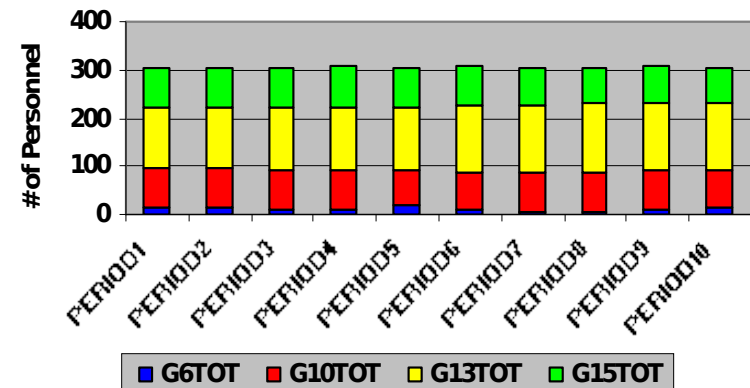


Grade Distribution Total

Scenario 1



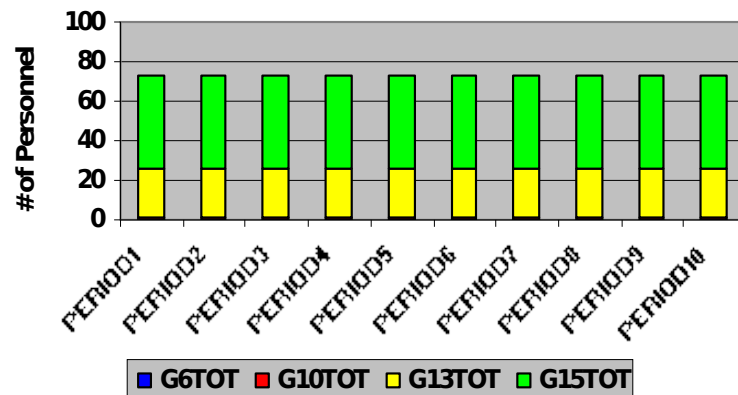
Scenario 2



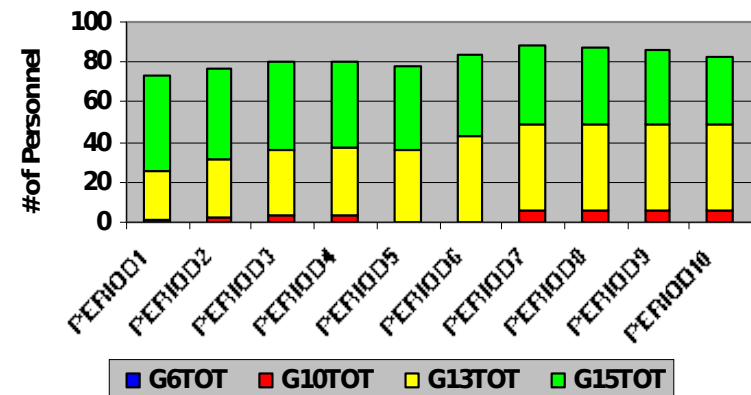
Grade Distribution

1102 Series

Scenario 1



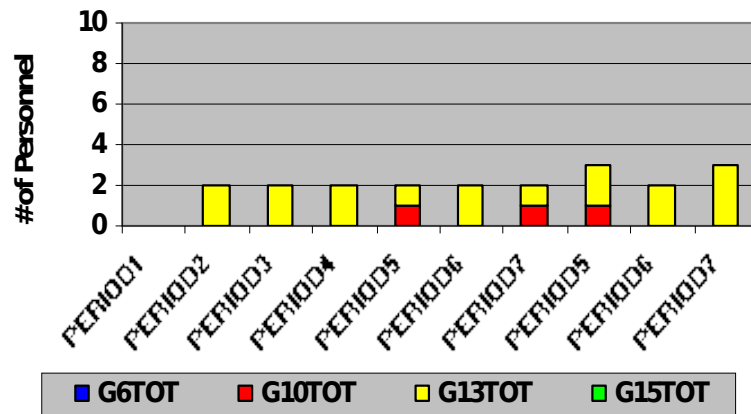
Scenario 2



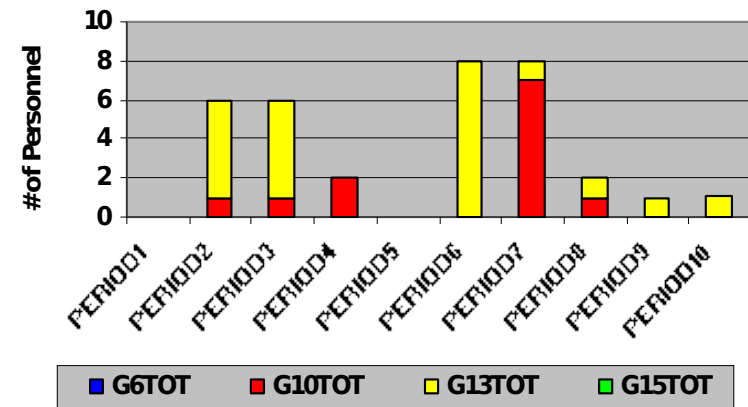
Accessions

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Scenario 1



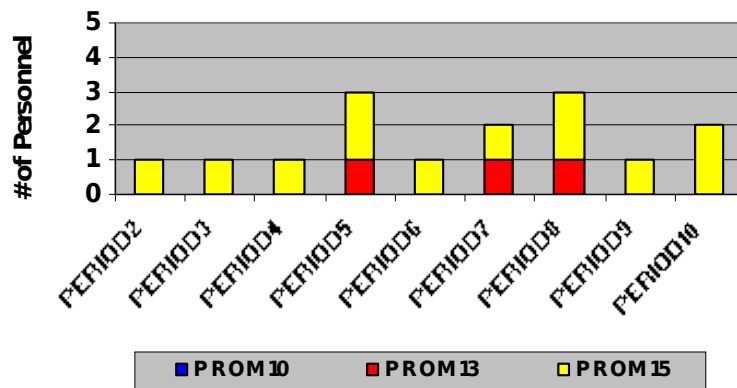
Scenario 2



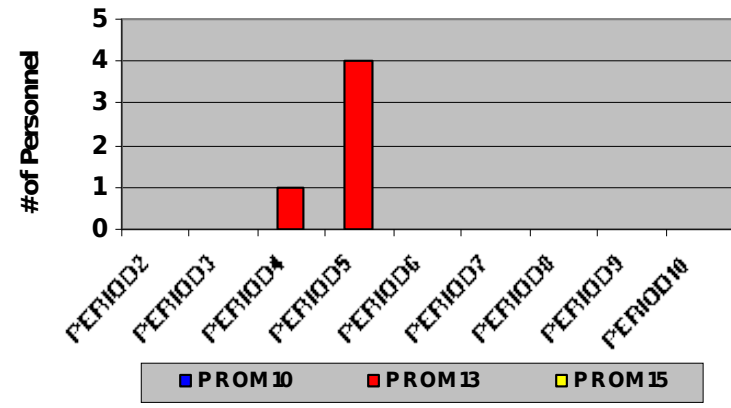
Promotions

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Scenario 1

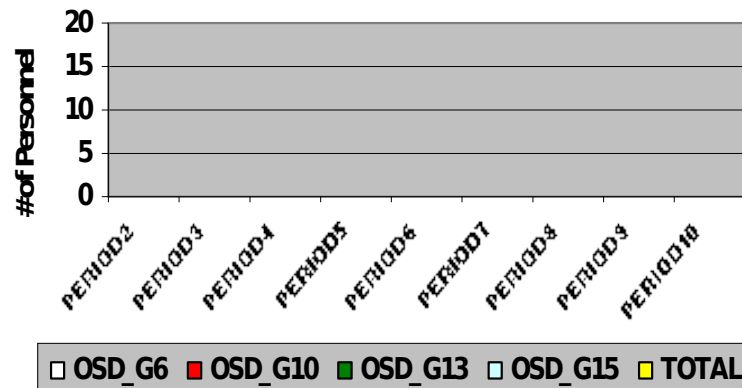


Scenario 2

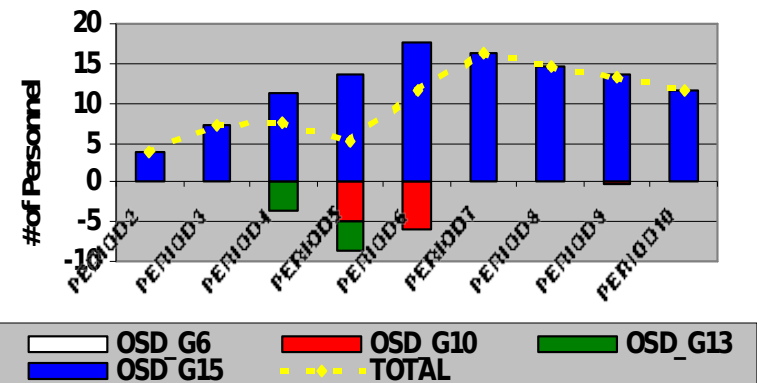


Operating Strength Deviation 1102 Series

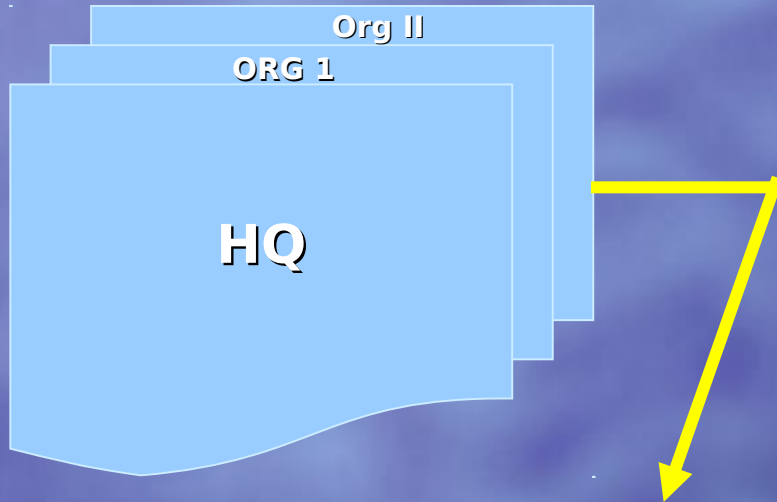
Scenario 1



Scenario 2



Organizational Building Blocks



HQ	1	1
Org I	X	X'
Org II	Y	Y'
Org III	Z	Z'

Skill	Grade 1	Grade 2	Grade N
Occ #1				
Occ #2				
.....				
Occ M				
TOTAL				

**FUTURE
REQUIREMENTS
DATABASE**

Base	Total	Org I	Org II	Org III
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